

What is claimed is:

1. A gene comprising a DNA having the nucleotide sequence encoding any one of the amino acid sequences of the following (a) to (h):

(a) an amino acid sequence set out in SEQ ID NO: 1;

(b) an amino acid sequence having the sequence homology of 80% or more with the amino acid sequence set out in SEQ ID NO: 1, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(c) an amino acid sequence having the sequence homology of 90% or more with the amino acid sequence set out in SEQ ID NO: 1, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(d) an amino acid sequence encoded by a DNA having the nucleotide sequence set out in SEQ ID NO: 2;

(e) an amino acid sequence encoded by a DNA having the nucleotide sequence having the sequence homology of 80% or more with a DNA having the nucleotide sequence set out in SEQ ID NO: 2, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce

2,2,2-trifluoroacetophenone to
2,2,2-trifluoro-1-phenylethanol;

(f) an amino acid sequence encoded by a DNA that hybridizes under the stringent condition with a DNA having a nucleotide sequence which is complementary to the nucleotide sequence set out in SEQ ID NO: 2, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol;

(g) an amino acid sequence of a protein obtained from a microorganism belonging to genus *Leifsonia*, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol; and

(h) an amino acid sequence of a protein obtained from *Leifsonia* sp. S-749, and the amino acid sequence is an amino acid sequence of a protein having at least an ability to reduce 2,2,2-trifluoroacetophenone to 2,2,2-trifluoro-1-phenylethanol.

2. The gene according to claim 1 further comprising a linked promoter.

3. A recombinant vector comprising the gene according to claim 1.

4. A transformant obtained by introducing the gene according to claim 2 or the recombinant vector according to

claim 3 into a host cell.

5. The transformant according to claim 4, wherein the host cell is a microorganism.

6. The transformant according to claim 4, wherein the host cell is *E. coli*.

7. A transformant having the gene according to claim 1.

8. A method for producing a transformant, wherein the method comprises the step of introducing the recombinant vector according to claim 3 into a host cell.

9. A protein having the amino acid sequence according to claim 1.

10. A method for producing an alcohol, wherein the method comprises the step of contacting a ketone compound or an aldehyde compound with the protein according to claim 9, a microorganism that produces the protein according to claim 9, the transformant according to claim 4, or a processed product thereof.

11. The recombinant vector according to claim 3 further comprising a gene having a DNA having a nucleotide sequence encoding an amino acid sequence of a protein having an ability to convert oxidized β -nicotinamide adenine dinucleotide into the reduced form thereof.

12. The recombinant vector according to claim 11, wherein the protein having an ability to convert oxidized β -nicotinamide adenine dinucleotide into the reduced form

thereof is glucose dehydrogenase.

13. A transformant obtained by introducing the recombinant vector according to claim 11 into a host cell.

14. The transformant according to claim 13, wherein the host cell is a microorganism.

15. The transformant according to claim 13, wherein the host cell is *E. coli*.

16. A transformant having the gene according to claim 1, and a gene comprising a DNA having a nucleotide sequence encoding an amino acid sequence of a protein having an ability to convert oxidized β -nicotinamide adenine dinucleotide into the reduced form thereof.

17. The method according to claim 10, wherein a protein having an ability to convert oxidized β -nicotinamide adenine dinucleotide into the reduced form thereof is allowed to coexist in the reaction system.

18. The method according to claim 17, wherein the protein having an ability to convert oxidized β -nicotinamide adenine dinucleotide into the reduced form thereof is glucose dehydrogenase.

19. A method for producing an alcohol, wherein the method comprises the step of contacting a ketone compound or an aldehyde compound with the transformant according to any one of claim 13, or a processed product thereof.

20. *Leifsonia* sp. S-749 (Accession No. of International

Depository Authority: FERM BP-8291).

21. Use of a microorganism belonging to genus Leifsonia as a catalyst for producing an alcohol from a ketone compound or an aldehyde compound.

22. Use according to claim 21, wherein the microorganism belonging to genus Leifsonia is Leifsonia sp. S-749 (Accession No. of International Depository Authority: FERM BP-8291).